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ARTICLE V.

THE ADVANTAGES OF A DRY LOCAL TREATMENT IN OTORRHŒAL DISEASES.

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ONE of the greatest hindrances to cure in an ear disease accompanied by otorrhœa, whether the disease be due to inflammation in the auditory canal or middle ear, is the presence of granulations and polypoid growths. Yet one of the oldest forms of treatment of otorrhœal disease has been by copious syringing and instillation of various fluid medicines. Hence, in such treatment of this class of aural diseases, moisture has been repeatedly applied to, and kept in the ear, a naturally heated locality. Now as heat and moisture tend to promote granulations and keep up a discharge, it has become very apparent to aurists that a moist treatment of otorrhœa in many instances has a tendency to keep up rather than to check the morbid discharge from the ear.

Cleanliness in a running ear must, of course, be maintained by judicious syringing with tepid water in copious discharges, and in cases of slight otorrhœa, the ear can be kept clean without syringing by the use of a swab of absorbent cotton on the cotton holder, or by absorbent cotton rolled into a long slender dossil, and gently inserted into the ear. A copious discharge may be defined as one which overflows the auditory canal, fills the concha, and runs on the cheek. A slight one just fills the canal as far as the meatus at most, or at least, only keeps the membrana tympani moist. In the worst cases of otorrhœa I have long since ceased to let the patient or his friends syringe the running ear, if he can be seen every day or two by his physician, and let the latter perform this important operation. After syringing, the surgeon should dry the ear with absorbent cotton on the cotton-holder, applied under illumination of the ear by the forehead mirror. If the patient must be entrusted with cleansing his ear at home, it must be done by absorbent cotton and *not with the syringe*. By following these general rules, it will be seen that a great deal of moisture once entering into the cleansing part of the treatment of aural discharge may be eliminated. Perhaps in one case in a hundred the patient's ear must be syringed at home, but not in a greater ratio of cases will the necessity arise.

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[1] Reports that I have not myself consulted.

Respecting the local medication of the diseased ear much may be said. Formerly a patient with otorrhœa, regardless of its cause, was directed, in addition to using the syringe several times a day, to put drops of various astringent solutions into his ear. The patient usually syringed his ear, or had it syringed, three or four times daily, and afterwards from five to ten drops of the astringent solutions were put into the meatus and allowed to find their way to the depths of the ear. This method, in many cases, seemed to do no harm, but to effect a cure, after a rather lengthy treatment, if no granulations sprang up, and if the fluid applications were skilfully diminished as the discharge decreased. If, however, at the first signs of decrease in the morbid discharge, the quantity of fluid treatment was not lessened, and this lessening was not kept up *pari passu* with the cessation of the discharge, the writer has often observed, as it were, a steady increase in otorrhœa after a short but marked abatement. In other words, this kind of treatment after a longer or a shorter time may cease to act as a curative and begin to be a positive irritant, and hence to maintain the morbid secretion. Then too in the case of zinc drops there seems to be supplied something which makes the fundus of the auditory canal favourable to the growth of the ear-fungus, the aspergillus. Zinc solutions, as prepared for the ear, certainly favour the growth of a fungus, looking something like aspergillus, at the bottom of the bottles containing them, very soon after they are brought from the shops, and in this may be found the explanation of their sometimes apparent fungus-fostering action in aural disease.

The syringe, therefore, and all forms of drops should be omitted from the home treatment by the patient in cases of otorrhœa. The most the patient should be directed to do is to dry his ear according to its need, by running into the canal and down to the fundus a twisted pencil of absorbent cotton, and, in the writer's experience, none is equal in its absorbent power to that made by Hance Brothers & White, of Philadelphia. The patient in the case of copious discharge should see his physician every day at first, then every other day, and so on at longer intervals as the discharge diminishes. The surgeon is to use the syringe only when it is absolutely necessary to remove by it the matter from the ear, and thus prepare the organ for the application of medication by his hand. This latter part of the treatment should consist in the blowing of powders into the ear. Powdered alum has long been used by aurists, but this is the only powder which has entered to any extent into aural therapeutics in the books. It has been used only because of its astringency and not because it was a powder. It is, happily, universally condemned at present, and I trust has fallen into entire disuse, on account of its tendency to bring about furuncles in the ear. Powders as the great treatment, the dry treatment *par excellence*, have gradually come into use in the treatment of aural diseases characterized by discharge from the meatus, since Bezold, of Munich, recommended the use of boracic acid in powdered form for treating otorrhœa. In this country Sexton in New York, Theobald in Baltimore, and Todd and Spencer in St. Louis, have been among the earliest to give prominence to this method of treating otorrhœa, and to abandon the excessive use of the syringe.

These observers have used in powder, boracic acid and borax chiefly, perfectly soluble powders; and no other kind should be introduced into the auditory canal.

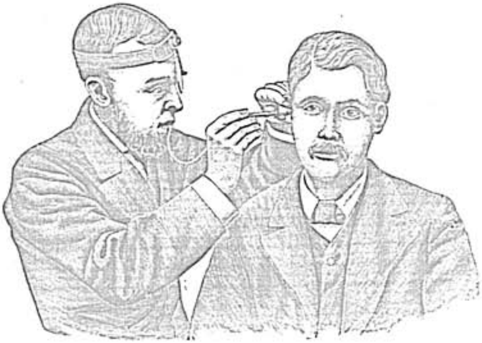
Todd prefers in most cases powdered borax. Sexton has recommended a formula for boracic acid powder, which seems to me a highly useful one. I refer to that which is prepared by triturating equal parts of tincture of *Calendula officinalis* with boracic acid (gr. to minim), allowing evaporation, then rubbing one part of the thus calendulated boracic acid with one or two parts of pure boracic acid. In my experience this latter powder possesses unusual advantages as a healer of the discharge. Other powders possess also undoubted advantages, as for example one composed of—

Resorcin, ʒj.
Boracic acid, ℥j.

and also one which I have lately introduced to the notice of my colleagues composed of—

Salicylate of chinoline, ʒss–ʒj.
Boracic acid, ℥j.

or the chinoline salicylate, an amorphous white powder, may be used pure It is, however, likely to burn and cause pain when used in the latter state. In most cases it must be used mixed with sixteen times its quantity of boracic acid before it can be endured in the ear. But its power of destroying bacteria is so great as to render it a most valuable aid in the treatment of purulent diseases of the ear, and in inflammation of the canal from the growth of aspergillus, for it kills the latter most promptly. In fact the excellence which all the powders named possess as healers of aural inflammation and discharge, while partially due to their drying and detergent qualities, is greatly augumented by their antiseptic nature. All powders should be blown gently into the ear by means of a very simple instrument, which the surgeon can make for himself. Take a foot of black rubber tubing, for this kind is more flexible and durable than white, and to one end attach a goose-quill tooth pick, after the point is cut off. This will serve to take up the powder and carry it to the ear funnel. The ear funnel should be first adjusted, and the ear viewed by the light reflected from the aurist's forehead mirror having a focal distance of eight inches. Then under this good illumination the quill end of the blow-tube, in which a little of the medicating powder, whatever it may be, should have been taken up, may be inserted into the ear funnel, or speculum as it is usually called. The quill must be held as one does a pen, aim can readily be taken at the diseased spot, and a gentle puff from the surgeon's mouth, in which the proximal end of the rubber tube is held, will send the powder over the diseased surface. This method of insufflation of powders into the ear is shown in the accompanying figure.



This is such a simple and perfectly efficient operation that the wonder is that it has not been sooner and more widely in use. It is still more amazing that the practicability of this manœuvre has been questioned, and that it has been recommended to resort to a clumsy and almost impracticable method of pouring and ramming the powder into the meatus and down the auditory canal, a method attended surely with loss of time and usually with failure. If persevered in with any roughness—and it can hardly fail to abrade and bruise the ear in any case—it will be followed by more or less acute inflammation of the canal.

The practical curative advantages of the treatment by means of insufflation of powders, over the treatment of otorrhœa by syringing and "drops" may be seen best by comparing the tables of in all forty-five cases. The first fifteen cases show the results of the old method, the other two sets, fifteen cases each, show the advantages of the new or dry method of treatment by means of powders blown into the auditory canal. These have been taken arbitrarily from my note-book of *consecutive* cases.

TABLE I.—*Fifteen consecutive cases of Otorrhœa, as treated ten years ago by the "moist" method,* i. e., *by syringing and "drops," showing the great disadvantages of such treatment as compared with the dry or antiseptic method now more in vogue. Compare with Table II.*

			Days.	Result.
Case 1.	Woman, 30 years old, chronic.	1st period of treatment,	30	Cured.
	Relapsed in six months.	2d “ “ “	330	Not cured.
Case 2.	Man, 30 years old, chronic.	1st “ “ “	54	Improved.
	Relapsed in one month.	2d “ “ “	73	Not cured.
Case 3.	Woman, 26 years old, chronic, both ears.	Under treatment,	120	Cured.
Case 4.	Girl, 13 years old, chronic.	Under treatment,	103	“
Case 5.	Girl, 18 years old, chronic.	1st period of treatment,	59	“
	Relapsed in four months by accidental entrance of cold water into ear.	2d period of treatment,	365	“
Case 6.	Man, 25 years old, chronic.	Under treatment,	207	Improved.
Case 7.	Woman, 40 years old, chronic, both ears.	Under treatment,	116	Cured.
	Has relapsed several times in ten years, with heavy colds in head. Last relapse treated by "dry" method, and recovered rapidly.			
Case 8.	Man, 28 years old, chronic.	Under treatment,	195	Not cured.
Case 9.	Man, 17 years old, chronic.	1st period of treatment,	38	Cured.
	In a year took cold and relapsed (mastoid symptoms)	2d period of treatment,	145	“
	“ “ “ “	3d “ “ “	61	“
	“ “ “ “	4th “ “ “	175	“
Case 10.	Man, 22 years old, chronic.	Under treatment,	30	Not cured.
Case 11.	Man, 18 years old, chronic.	“ “	365	Improved.
Case 12.	Man, 30 years old, acute.	“ “	17	Cured.
Case 13.	Girl, 19 years old, chronic.	“ “	610	Improved.
Case 14.	Boy, 10 years old, chronic.	“ “	44	“
Case 15.	Boy, 8 years old, chronic, both ears.	Under treatment,	45	Cured.
			3182	
	Average duration of treatment of a case by the old method,		212 days.	

TABLE II.—*Fifteen consecutive cases of Otorrhœa, treated by the "dry method," within the last six months, showing great advantages of the "dry" over the "moist" treatment.*

				Days.	Result.
Case 1.	Girl,	17 years old,	subacute.	Under treatment,	15	Cured.
Case 2.	Girl,	4 “ “	chronic.	“ “	1	“
Case 3.	Man,	38 “ “	“	“ “	10	“
Case 4.	Boy,	10 “ “	subacute.	“ “	4	“
Case 5.	Woman,	21 “ “	chronic.	“ “	10	“
Case 6.	Woman,	45 “ “	“	“ “	20	“
Case 7.	Boy,	3 “ “	“	“ “	31	“
Case 8.	Woman,	27 “ “	“	“ “	28	“
Case 9.	Boy,	10 “ “	“	“ “	21	“
Case 10.	Girl,	4 “ “	“	“ “	22	“
	(This case had a short relapse of a week, but was cured in two applications of boracic acid in powder.)					
Case 11.	Woman,	30 years old,	chronic.	Under treatment,	4	Cured.
Case 12.	Man,	22 “ “	“	“ “	66	Much improved.
Case 13.	Boy,	17 “ “	“	“ “	13	Cured.
Case 14.	Man,	46 “ “	“	(both ears) “	15	“
Case 15.	Woman,	35 “ “	“	“ “	7	“
					267	
	Average duration of treatment of a case by this method,				17 to 18 days.	

This gives for an individual, in Table I., a treatment lasting 212 days, or, if estimated by occasions or periods, one lasting 151 days.

It may be urged that not enough time has yet elapsed to permit of seeing whether the cases in Table II. will relapse, as many did under the old treatment as shown in Table I. This may be a valid objection; however, Table II. shows very plainly that a cure can be brought about in a very much shorter time than it ever was by the method depicted in Table I., and also that even when a relapse does occur in Table II. the second cure is more speedily effected than by the old methods of Table I.

The durability of a cure under the new method may be better seen in Table III., in which all the cases precede chronologically those in Table II. So far the cases in Table III. have held good.

TABLE III.—*Fifteen consecutive cases of chronic Otorrhœa, preceding those in Table II., but treated also by the dry method, showing the less liability to relapse after this treatment.*

			Days.	Result.
Case 1.	Woman, 47 yrs., chronic 43 yrs.	Under treatment,	24	Cured.
Case 2.	Boy, 9 yrs. (a mute), chr. 5 yrs.	" "	90	Improved.
Case 3.	" 10 " " " 10 yrs.	" "	90	"
Case 4.	Girl, 18 years, chronic 14 yrs.	" "	31	Cured.
Case 5.	Girl, 5 years, acute	" "	23	"
Case 6.	Girl, 7 years, chronic 5 yrs.	" "	60	"
Case 7.	Man, 25 yrs. (both ears), ch. 3 yrs.	" "	3	Withdrew impr'd.
Case 8.	Boy, 17 years, chronic 1 year	" "	39	Cured.
Case 9.	Woman (negress) 30 years (granulations) acute.	Under treatment,	7	Cured.
Case 10.	Man, 55 years, chronic 4 years.	" "	6	"
Case 11.	Woman, 35 yrs., duration not known (granulations)	Under treatment,	7	Much improved.
Case 12.	Man, 72 years, chronic 70 years (granulations)	Under treatment,	26	Cured.
	Short relapse in six months	" "	2	"
Case 13.	Woman, 50 years, chronic since childhood. In this case the treatment had to contend with general cachexia, furunculosis meatus, dental caries, insanity in family, and *res angustæ domi* in a sensitive organization.		73	
Case 14.	Woman, 55 yrs., chronic one month (granulations)	Under treatment,	15	Cured.
Case 15.	Man, 38 years, chronic otitis externa at drum membrane, with polyp.	Under treatment,	20	"
			516	

Average duration of treatment of a case by this method, 34 to 35 days.

This average is greatly increased by 180 days devoted to the treatment of the two mutes, Cases 2 and 3. But they must be counted in, as they enter the consecutive series.

Synopsis of Table.

	Table I. Old treatment.	Table II. New treatment.	Table III. New treatment.
Male	9	7	7
Female	6	8	8
Average age of patients in years	22	$21\frac{3}{5}$	32
Average duration of treatment in days	212	17–18	35[1]
Improved	2	1	4[2]
Failures	3	0	0
Cures	10	14	11
Relapses	5	1[3]	2[4]

ARTICLE VI.

SOME OBSERVATIONS ON THE ANTISEPTIC AND PHYSIOLOGICAL ACTION OF RESORCIN.

By W. B. PLATT, M.D. (Harv.), M.R.C.S. (Eng.), Baltimore, Md.

RESORCIN was discovered by Hlasiwitch and Barth, in Vienna, in 1864. They obtained it from galbanum and ammoniac, two well-known gum resins. It has also been obtained from Brazil-wood, but is now usually made by melting phenol-sulphonic acid with caustic potassa. In America it costs about $2.50 per ounce; in Germany, half that sum. Any increased consumption would doubtless largely reduce the market price, as it is at present made only on a small scale.

Chemically.—Resorcin belongs to the phenol group, phenol (carbolic acid) being $C_6H_5(OH)$, while resorcin is $C_6H_4(OH)_2$. It is isomeric with two other members of the same group, hydrochinon (which is already known to possess antiseptic qualities) and pyrocatechin. The latter has been little studied as yet.

Hydrochinon, quite similar in its general action to resorcin, is reported to have been investigated by Brieger, who finds it possesses a stronger antipyretic action than resorcin. Two decigrammes internally (0.2) depress the temperature of the body half a degree Cent. (nearly $1\frac{1}{2}$° F.). The effect in depressing temperature is very brief. Larger doses, up to 1 gramme, cause symptoms of excitement, etc., similar to resorcin. It has no more local irritant action than water.

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[1] This average is increased by the 180 days devoted to the two mutes before referred to.

[2] The two mutes under this head may yet come among the failures.

[3] Finally cured, and counted in cures.

[4] Finally cured, and counted in cures. One was a woman, 50 years old, already alluded to as a very chronic and cachectic case; the other was a man, 72 years old, in whom the disease was chronic since boyhood, and in whom the disease was complicated by polypi. The relapse, however, only lasted a few days.